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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002-NM-336-AD; Amendment 39-13426; AD 2004-01-12]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB-135 and -145 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain EMBRAER Model EMB-135 and -145 series airplanes, that requires operators to inspect the pitot-true air temperature (TAT) relays and the full authority digital engine control (FADEC) electronic interface resistor modules to detect contamination. This AD also requires operators to perform corrective action if necessary, clean the relay/connector pins and sockets, modify the seal between the cockpit console panels and the storm window, and/or install a new protective frame (protective sheets) at the cockpit relay supports. This action is necessary to detect and correct oxidation of the pitot-TAT relay, which could result in increased resistance and overheating of the relay and consequent smoke in the cockpit; and to detect and correct oxidation of the FADEC electronic interface resistor modules, which could result in in-flight uncommanded engine power roll back to idle. This action is intended to address the identified unsafe condition.

DATES: Effective February 13, 2004.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of February 13, 2004.

ADDRESSES: The service information referenced in this AD may be obtained from Empresa Brasileira de Aeronautica S.A. (EMBRAER), PO Box 343–CEP 12.225, Sao Jose dos Campos–SP, Brazil. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1175; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain EMBRAER Model EMB-135 and -145 series airplanes was published as a supplemental NPRM in the Federal Register on September 8, 2003 (68 FR 52865). The supplemental NPRM proposed to require operators to inspect the pitot-true air temperature (TAT) relays and the full authority digital engine control (FADEC) electronic interface resistor modules to detect contamination. The supplemental NPRM also proposed to require operators to perform corrective action if necessary, clean the relay/connector pins and sockets, modify the seal between the cockpit console panels and the storm window, and/or install a new protective frame (protective sheets) at the cockpit relay supports.

Explanation of New Relevant Service Information

The supplemental NPRM identified Change 03 of EMBRAER Service Bulletin 145-30-0032 as the appropriate source of service information for the inspection and modification. EMBRAER has since revised the service bulletin; however, Change 04, issued August 11, 2003, adds no new actions. The Departamento de Aviacao Civil (DAC), which is the airworthiness authority for Brazil, approved Change 04 of the service bulletin.

Paragraph (d) of the supplemental NPRM proposed to give credit for the protective sheet installation if already done in accordance with Change 06 of EMBRAER Service Bulletin 145-25-0211. EMBRAER has since revised this service bulletin; however, Change 07, issued August 11, 2003, adds no new actions. In fact, EMBRAER considers that all versions, through Change 07, of this service bulletin accomplish the same work; i.e., subsequent versions to date have introduced no new actions. The DAC has approved all revisions of this service bulletin through Change 07.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments on the supplemental NPRM.

Request To Revise Required Service Information

One commenter requests that paragraphs (c) and (d) of the supplemental NPRM be revised to include the recently issued Change 04 of Service Bulletin 145-30-0032 as a compliance option.

The FAA agrees, and considers Change 04 the primary source of service information for those requirements in this final rule. So that all operators are subject to the same, current requirements, paragraphs (c) and (d) of this AD require Change 04 of Service Bulletin 145-30-0032. In addition, paragraph (a) has been revised in this final rule to require Change 04 of this service bulletin. And new paragraph (e) has been added to this final rule to credit the prior accomplishment of actions done in accordance with earlier service bulletin versions.

Request To Credit Additional Service Bulletin Versions

This same commenter requests that all versions of Service Bulletin 145-25-0211, through Change 06, be allowed for credit for paragraphs (c) and (d) of the supplemental NPRM. The commenter states that all of its airplanes have been modified in accordance with earlier revision levels of that service bulletin.

We agree with the request. As stated earlier, there are no essential differences among the revisions of this service bulletin. New paragraph (e) in this final rule provides credit accordingly. Change 07, issued since we received the comment, is also included.

Request To Allow Other Service Bulletin Versions

The commenter notes that, when an AD cites a service bulletin that is later revised, an operator must request an alternative method of compliance (AMOC) to take credit for having used an earlier version or to use a later version of the specified service bulletin. The commenter therefore requests that paragraphs (a) and (c) of the supplemental NPRM be revised to allow the original issue of Service Bulletin 145-30-0032, dated January 26, 2001, as well as any future revisions that have only minor changes. The commenter suggests that such a provision would reduce the requests for AMOCs.

We do not agree with the request. We find that the procedures specified in the original issue and Revision 01 of Service Bulletin 145-30-0032 may not adequately address the identified unsafe condition. In addition, allowing "later FAA-approved revisions" of a service bulletin in addition to an AD's specified version, would violate Office of the Federal Register (OFR) regulations for approving materials that are incorporated by reference. We must either publish the contents of the service bulletin as part of the text of the AD; or submit the service bulletin to the OFR for approval as "referenced" material, allowing us to simply refer to such material in the AD. To allow operators to use a revision issued after the AD was published, either we must revise the AD to refer to the specific revision, or, as the commenter notes, an operator must request an AMOC to use a later revision.

Conclusion

After careful review of the available data, including the comments noted above, we have determined that air safety and the public interest require the adoption of the rule with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

We estimate that 365 airplanes of U.S. registry will be affected by this AD. The following table provides the cost estimates for each requirement.

Costs of Required Actions

Action	Work hours Per airplane	Average hourly labor rate	Parts cost per airplane	Cost per airplane
Inspect the pitot-TAT relay	1	\$65	\$0	\$65
Inspect the FADEC resistor modules	2	65	0	130
Seal the lateral console panels and install protective sheets	3	65	660	855

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2004-01-12 Empresa Brasileira de Aeronautica S.A. (EMBRAER): Amendment 39-13426.
Docket 2002-NM-336-AD.

Applicability: Model EMB-135 and EMB-145 series airplanes, certificated in any category; as listed in EMBRAER Service Bulletin 145-30-0032, Change 04, dated August 11, 2003.

Compliance: Required as indicated, unless accomplished previously.

To detect and correct oxidation of the pitot-true air temperature (TAT) relay, which could result in increased resistance and overheating of the relay and consequent smoke in the cockpit; and to detect and correct oxidation of the full authority digital engine control (FADEC) electronic interface resistor modules, which could result in in-flight uncommanded engine power roll back to idle, accomplish the following:

Inspection and Cleaning of Pitot-TAT Relays

(a) For airplanes identified in paragraph 1.A.(1) ("PART I") of EMBRAER Service Bulletin 145-30-0032, Change 04, dated August 11, 2003: Within 400 flight hours after the effective date of this AD, perform a detailed inspection to detect contamination of the pitot-TAT relays and clean the relay/connector pins and sockets, in accordance with the Accomplishment Instructions ("PART I") of the service bulletin. If any contamination remains after cleaning: Prior to further flight, replace each contaminated relay, relay socket, and relay socket contact with a new part, in accordance with the service bulletin.

Note 1: For the purposes of this AD, a detailed inspection is defined as: "An intensive visual examination of a specific structural area, system, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror, magnifying lenses, etc., may be used. Surface cleaning and elaborate access procedures may be required."

Inspection of FADEC Interface Resistor Modules

(b) For airplanes identified in EMBRAER Service Bulletin 145-76-0003, dated April 22, 2002: Within 400 flight hours after the effective date of this AD, perform a detailed inspection to detect contamination (including moisture and corrosion) of the left- and right-hand FADEC electronic interface resistor modules, in accordance with the Accomplishment Instructions of the service bulletin. Then do the applicable corrective actions specified in paragraphs (b)(1) and (b)(2) of this AD.

(1) If any contamination is found during the inspection: Before further flight, clean the resistor modules and/or their respective electrical connector pins, in accordance with the service bulletin.

(2) If any contamination remains after cleaning the modules and pins as specified in paragraph (b)(1) of this AD: Before further flight, replace the modules and connectors with new parts, as applicable, in accordance with the service bulletin.

(3) Following accomplishment of any corrective action specified in paragraph (b)(1) or (b)(2) of this AD: Before further flight, perform the ohmic resistance test of the left- and right-hand FADEC electronic interface resistor modules, and accomplish applicable troubleshooting procedures, in accordance with the service bulletin.

Console Panel Sealing

(c) For airplanes identified in paragraph 1.A.(2) ("PART II") of EMBRAER Service Bulletin 145-30-0032, Change 04, dated August 11, 2003: Before further flight following accomplishment of the requirements of paragraph (a) of this AD, modify the seal between the cockpit console panels and the storm window by applying PVC foam adhesive tape and sealant, in accordance with the Accomplishment Instructions ("PART II") of the service bulletin.

Protective Sheet Installation

(d) For airplanes identified in paragraph 1.A.(3) ("PART III") of EMBRAER Service Bulletin 145-30-0032, Change 04, dated August 11, 2003: Before further flight following accomplishment of the requirements of paragraph (b) of this AD, install new protective sheets at the relay supports in accordance with the Accomplishment Instructions ("PART III") of the service bulletin.

Credit for Prior Service Bulletin Revisions

(e) The FAA considers actions done before the effective date of this AD acceptable for compliance with this AD, if those actions were done in accordance with the applicable service bulletins listed in Table 1 of this AD.

TABLE 1.—ACCEPTABLE SERVICE B ULLETIN REVISIONS

Operators that have—	May take credit for compliance with—	If that action was done before the effective date of this AD in accordance with EMBRAER Service Bulletin—
Inspected the pitot-TAT relays and done applicable corrective actions.	Paragraph (a) of this AD	145–30–0032, Change 02, dated December 3, 2001; or Change 03, dated January 27, 2003.
Modified the seal	Paragraph (c) of this AD	145–30–0032, Change 02, dated December 3, 2001; or Change 03, dated January 27, 2003.
Installed protective sheets	Paragraph (d) of this AD	145–25–0211, dated April 27, 2001; Part I. 145–25–0211, Change 01, dated May 25, 2001; Part I. 145–25–0211, Change 02, dated June 17, 2001; Part I. 145–25–0211, Change 03, dated December 3, 2001; Part I. 145–25–0211, Change 04, dated February 6, 2002; Part I. 145–25–0211, Change 05, dated April 16, 2002; Part I. 145–25–0211, Change 06, dated December 26, 2002; Part I. 145–25–0211, Change 07, dated August 11, 2003; Part I. 145–30–0032, Change 02, dated December 3, 2001; Part III. 145–30–0032, Change 03, dated January 27, 2003; Part III.

Alternative Methods of Compliance

(f) In accordance with 14 CFR 39.19, the Manager, International Branch, ANM-116, FAA, Transport Airplane Directorate, is authorized to approve alternative methods of compliance for this AD.

Incorporation by Reference

(g) Unless otherwise specified in this AD, the actions must be done in accordance with EMBRAER Service Bulletin 145-30-0032, Change 04, dated August 11, 2003; and EMBRAER Service Bulletin 145-76-0003, dated April 22, 2002; as applicable. EMBRAER Service Bulletin 145-30-0032, Change 04, contains the following effective pages:

Page No.	Change level shown on page	Date shown on page
1, 2, 7, 8, 21, 22	04	August 11, 2003.
3-6, 9-20	02	December 3, 2001.

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343-CEP 12.225, Sao Jose dos Campos-SP, Brazil. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Note 2: The subject of this AD is addressed in Brazilian airworthiness directives 2001-05-01R2, dated April 22, 2003; and 2002-10-03, dated October 24, 2002.

Effective Date

(h) This amendment becomes effective on February 13, 2004.

Issued in Renton, Washington, on December 31, 2003.
Michael J. Kaszycki,
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
[FR Doc. 04-269 Filed 1-8-04; 8:45 am]
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